

### **Abstract**

An electromechanical sparring partner simulates the movement and appearance of a human sparring partner. The arms and torso of the electromechanical sparring partner includes motors or actuators arranged such that the electromechanical sparring partner can throw and receive punches in an anatomically correct fashion. The torso of the sparring partner includes motors or actuators that tilt the torso from left to right and front to back. The torso connects to a base and may also twist or turn about a vertical axis. Actuators or motors raise and lower the arm as well as retract and extend the lower arm to simulate a variety of punches. The motors or actuators that move the arms and torso can be independently controlled or controlled in concert to throw a variety of punches.